

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in this application:

LISTING OF CLAIMS:

Claims 1 to 6. (Cancelled)

7. (Currently Amended) Method of manufacturing tubes intended for making all or the external part of a sheathing tube for a nuclear fuel rod or a guide tube for a nuclear fuel assembly, characterized in that a bar is formed of a zirconium based alloy which also contains,

0.03 to 0.25% in total firstly of iron,

secondly, at least one of the elements selected from the group consisting of comprising chromium and vanadium,

0.8 to 1.3% of niobium,

less than 2000 ppm of tin,

500 to 2000 ppm of oxygen,

less than 100 ppm of carbon,

5 to 35 ppm of sulfur and

less than 50 ppm of silicon,

- quenching the bar in water after heating to between 1000° and 1200°C,

- extruding a blank after heating to a temperature of between 600°C and

800°C,

- cold-rolling said blank in at least four passes to obtain a tube, with intermediate heat treatments between 560°C and 620°C, and

- applying a final heat treatment at between 560°C and 620°C, all the heat treatments being applied in an inert atmosphere or under vacuum.

8. (Original) Method as claimed in claim 7, characterized in that the alloy contains at most 0.20% of iron.

9. (Original) Method as claimed in claim 7, characterized in that the Fe/(Cr+V) ratio is between 0.5 and 30 by weight.

10. (Original) Method as claimed in claim 7, characterized in that the Fe/(Cr+V) ratio is at least 0.5 and the content of Fe+Cr+V is at least 0.03%.

11. (Original) Method as claimed in any one of the claims 7 to 10, characterized in that the oxygen content is between 1000 and 1600 ppm.

12. (New) Method as claimed in claim 7, wherein the final heat treatment brings the tube to a recrystallized state.